

**TOSHIBA**

**2SC2995**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC2995

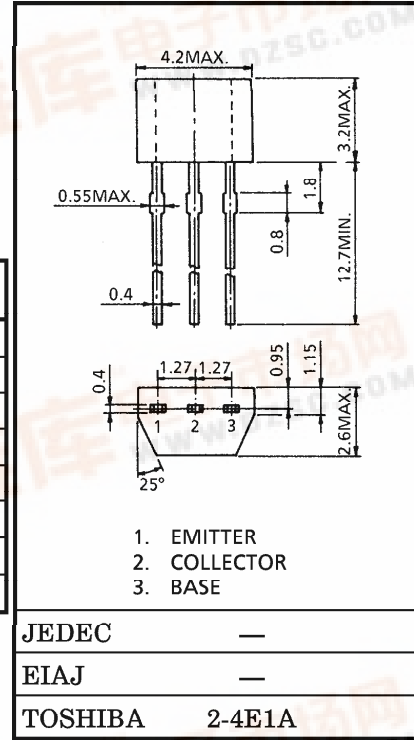
FM / AM RF, MIX, OSC, IF  
HIGH FREQUENCY AMPLIFIER APPLICATIONS.

Unit in mm

- High stability Oscillation Voltage On FM Local Oscillator.
- Recommend FM / AM RF, MIX, OSC and IF.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	4	V
Collector Current	I <sub>C</sub>	50	mA
Base Current	I <sub>B</sub>	10	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 0.13g

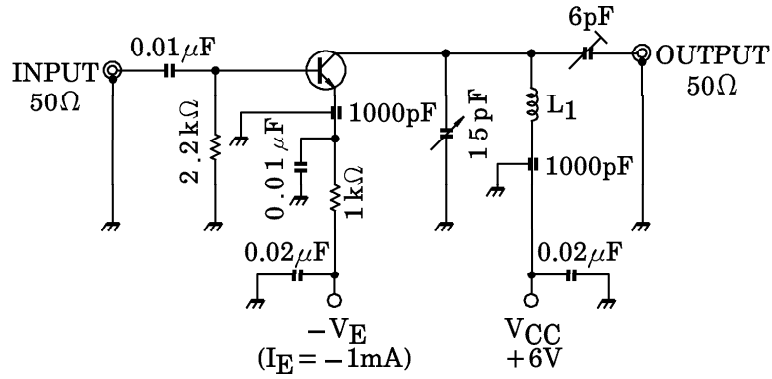
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 40V, I <sub>E</sub> = 0	—	—	0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0	—	—	0.5	μA
DC Current Gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> = 6V, I <sub>C</sub> = 1mA	40	—	240	—
Reverse Transfer Capacitance	C <sub>re</sub>	V <sub>CE</sub> = 6V, f = 1MHz	—	0.9	1.3	pF
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 6V, I <sub>E</sub> = -1mA	150	350	—	MHz
Collector-Base Time Constant	C <sub>c-rbb'</sub>	V <sub>CE</sub> = 6V, I <sub>E</sub> = -1mA, f = 30MHz	—	15	30	ps
Noise Figure	NF	V <sub>CC</sub> = 6V, I <sub>E</sub> = -1mA, f = 100MHz (Fig.1)	—	4.0	—	dB
Power Gain	G <sub>pe</sub>		—	15	—	
Oscillation Output Voltage	V <sub>OSC</sub>	V <sub>CC</sub> = 6V, f = 100MHz (Fig.2)	—	150	—	mV

Note : h<sub>FE</sub> Classification R : 40~80 O : 70~140 Y : 120~240

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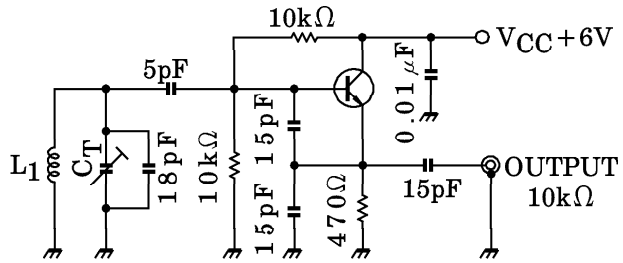
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L<sub>1</sub> : 0.8mmφ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

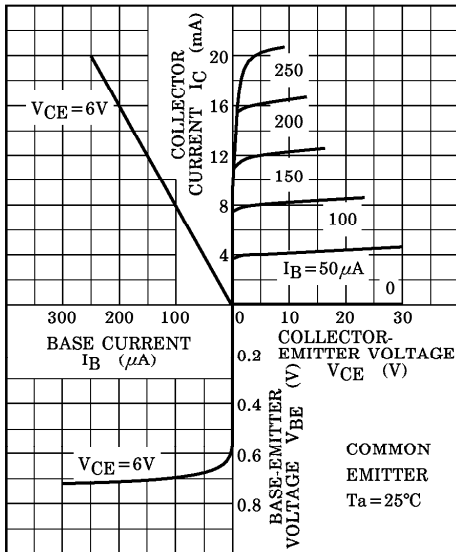
Fig.1 NF, G<sub>pe</sub> TEST CIRCUIT



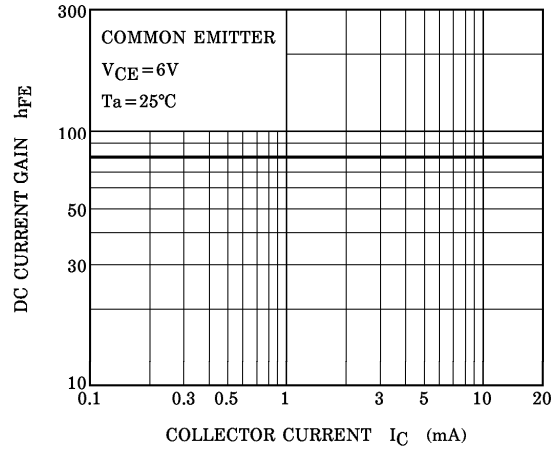
L<sub>1</sub> : 0.8mmφ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

Fig.2 V<sub>OSC</sub> TEST CIRCUIT

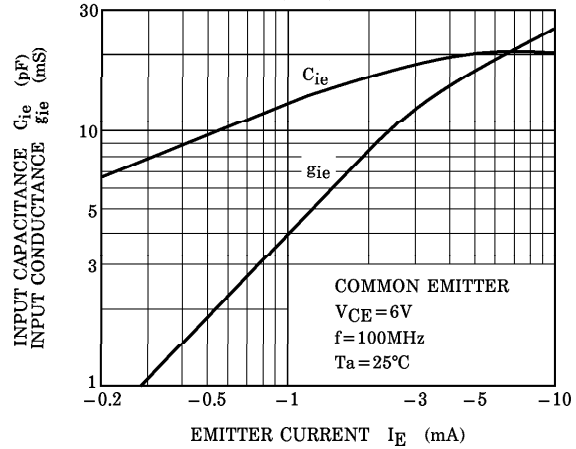
STATIC CHARACTERISTICS



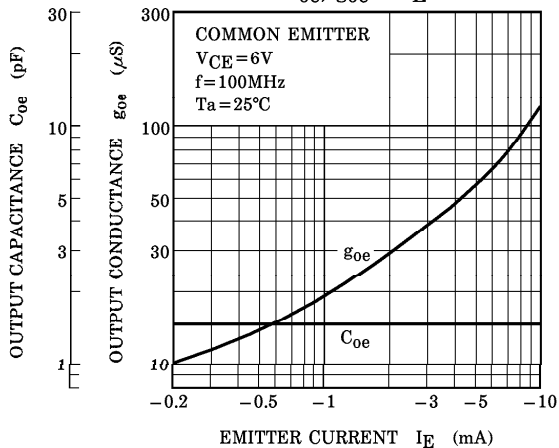
$h_{FE} - I_C$



$C_{ie}, g_{ie} - I_E$



$C_{oe}, g_{oe} - I_E$



$|Y_{re}|, \theta_{re} - I_E$

